

[illegible]

1. An exposure apparatus, comprising:  
an illumination optical system for  
illuminating a pattern of a reticle with laser light  
outputted from a continuous emission laser;  
a projection optical system for  
projecting the illuminated pattern onto a subject  
to be exposed; and  
an interferometer operable while using  
laser light outputted from said continuous  
emission laser.
2. An apparatus according to Claim 1,  
wherein said interferometer includes a reflection  
member disposed on a stage for holding the subject.
3. An apparatus according to Claim 1,  
wherein said interferometer is operable to form an  
interference fringe for measurement of the  
wavefront aberration of said projection optical  
system.
4. An apparatus according to Claim 1,  
wherein said continuous emission laser is a  
continuous emission excimer laser having an  
emission wavelength of 193 nm or 157 nm.

6. An apparatus according to Claim 1, further comprising a stabilization mechanism for stabilizing the emission wavelength of said continuous emission laser.

7. An apparatus according to Claim 1,  
10 further comprising a semi-transmission mirror  
disposed between said continuous emission laser  
and said illumination optical system, for  
directing a portion of the laser light outputted  
from said continuous emission laser to said  
15 interferometer.

8. An apparatus according to Claim 7, further comprising an optical system operable to transform laser light outputted from said continuous emission laser into incoherent light and also to direct the same to the reticle, wherein said semi-transmission mirror is disposed between said continuous emission laser and said optical system, and wherein said semi-transmission mirror directs laser light not transformed into coherent light to said interferometer.

10. An apparatus according to Claim 9,  
10 further comprising an optical system operable to  
transform laser light outputted from said  
continuous emission laser into incoherent light  
and also to direct the same to the reticle, wherein  
said optical path switching mirror is disposed  
15 between said continuous emission laser and said  
optical system, and wherein said optical path  
switching mirror directs laser light not  
transformed into coherent light to said  
interferometer.

11. An apparatus according to Claim 1,  
further comprising a photoelectric converter for  
taking an image of an interference fringe produced  
by said interferometer, and an operation unit for  
analyzing an output of said photoelectric  
converter to control said projection optical  
system.

12. An apparatus according to Claim 1,  
further comprising a pulse emission laser for  
injecting laser light of a predetermined  
wavelength into said continuous emission laser.

13. A device manufacturing method,  
comprising the steps of:  
    exposing a wafer to a pattern by use of  
10 an exposure apparatus as recited in Claim 1; and  
    developing the exposed wafer.